In the claims:

Following is a complete set of claims as amended with this Response.

1. (Currently Amended) A method of annotating ~~processing~~ video data comprising ~~the steps of~~:

accepting video frame data from a video source, the video frame data corresponding to a sequence of video frames;

gathering ~~accepting~~ video information distinct from and describing ~~regarding~~ the video frame data and storing the video information;

comparing ~~a current state of the~~ video information describing a current video frame with the stored ~~gathered~~ video information ~~regarding the video frame data~~;

generating ~~determining~~ differential information based on the comparing; and

~~storing the differential information as annotations to the video frame data~~

inserting the differential information as annotation frames between frames of the sequence of video frames, the annotation frames being separate and distinct from the video frames.

2. (Original) The method of claim 1, wherein the video information comprises camera geometry information.

3. (Original) The method of claim 1, wherein the video information comprises camera pose information.

4. (Original) The method of claim 1, wherein the video information comprises source identification/description/illumination information.

5. (Original) The method of claim 1, wherein the video frame data comprises images obtained from a camera.

6-7. (Canceled)

8. (Currently Amended) The method of claim 1, wherein comparing comprises comparing video information describing a current video frame ~~a current state~~

with camera geometry information, camera pose information and source identification/description/illumination information of the video frame data.

9. (Canceled)

10. (Previously Presented) The method of claim 1, wherein storing comprises appending the differential information to the video frame data.

11. (Currently Amended) An apparatus comprising:

a video source to generate video frame data;

a collector configured to collect video information distinct from and describing the video frame data to be associated with the video frame data and to store the video information;

a comparator to compare video information describing a current video frame with the stored ~~a current state of the collected video information with collected~~ video information;

a differential generator to determine differential information based on the comparison; and

an annotator coupled to the differential generator to annotate the video frame data with the differential information, the differential information being inserted as annotation frames between frames of the video frame data, the annotation frames being separate and distinct from the frames of the video frame data.

12. (Original) The apparatus of claim 11, wherein the video information comprises one or more of: camera geometry; camera pose information; and source identification/description/illumination information.

13. (Currently Amended) The apparatus of claim 12, further comprising calibration software configured to generate the camera geometry information for the video frame data as the video frame data is being gathered by the video source and to provide the generated camera geometry information to the collector.

Fig. 26 (2601), 31 (3101)

14. (Previously Presented) The apparatus of claim 12, further comprising pose estimation software configured to generate the camera pose information for the video frame data as the video frame data is being gathered by the video source and provide the generated camera pose information to the collector.

15. (Previously Presented) The apparatus of claim 12, further comprising an encoder coupled to the differential generator configured to encode the differential information as an input to the annotator.

16. (Previously Presented) The apparatus of claim 15, wherein the encoder forwards a current state of the video information to a state storage device coupled to the encoder.

17-19. (Canceled)

20. (Previously Presented) The medium of claim 29, wherein the video information is camera geometry information.

21. (Previously Presented) The medium of claim 29, wherein the video information is camera pose information.

22. (Previously Presented) The medium of claim 29, wherein the video information is source identification/description/illumination information.

23. (Canceled)

24. (Currently Amended) The medium of claim 29 [19], wherein the video source is a video capture device.

25-27. (Canceled)

28. (Previously Presented) The medium of claim 29 wherein the instructions for storing comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising appending the differential information to the video frame data.

29. (Currently Amended) A machine-readable medium having stored thereon data representing instructions which, when executed by a machine, cause the machine to perform operations comprising:

accepting video frame data from a video source, the video frame data corresponding to a sequence of video frames;

gathering ~~accepting~~ video information distinct from and describing ~~regarding~~ the video frame data and storing the video information;

comparing ~~a current state of the~~ video information describing a current video frame with the stored ~~gathered~~ video information ~~regarding the video frame data~~;

generating ~~determining~~ differential information based on the comparing; and

~~storing the differential information as annotations to the video frame data~~

inserting the differential information as annotation frames between frames of the sequence of video frames, the annotation frames being separate and distinct from the video frames.

30. (Currently Amended) An annotated video bitstream comprising:

video frame ~~image~~ data corresponding to a sequence of video frames; and

~~video processing data regarding the video image data, annotating the video image data, for subsequent video processing~~

annotation frames between frames of the sequence of video frames, the annotation frames being separate and distinct from the video frames, the annotation frames comprising differential information generated based on comparing video information describing a current video frame with stored video information describing the video frame data.

31. (Currently Amended) The bitstream of Claim 30, wherein the video information ~~processing data~~ comprises camera pose information, camera geometry information and source identification information.

32. (Previously Presented) The bitstream of Claim 31, wherein the camera geometry information is defined by a camera projection matrix.

33. (Currently Amended) The bitstream of Claim 30, wherein the video information ~~processing data~~ comprises information for constructing three-dimensional models of objects in a scene of the video image data.

34. (Currently Amended) The bitstream of Claim 30, wherein the video information ~~processing data~~ comprises a three-dimensional scene model of objects in a scene of the video image data.

35. (Cancelled)

36. (Currently Amended) The bitstream of Claim 30, wherein the annotation frames are ~~video processing data is~~ present only for video ~~image~~ frames for which differential information exists.